Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
The Establishment of Policies	)	IB Docket No. 99-81
and Service Rules for the Mobile	)	RM-9328
Satellite Service in the 2 GHz Band	)	

REPLY COMMENTS OF PANAMSAT CORPORATION

PanAmSat Corporation ("PanAmSat"), by its attorneys, hereby responds to the comments submitted in response to the Notice of Proposed Rulemaking ("NPRM") in the above-referenced proceeding. As in its comments, PanAmSat is addressing only those issues that involve the use of fixed satellite service ("FSS") frequencies or that otherwise potentially affect FSS operators.

I. THE COMMISSION SHOULD DENY OR, AT A MINIMUM, DEFER CONSIDERATION OF BOEING'S KU-BAND FEEDER LINK REQUEST.

Boeing has proposed to use Ku-band frequencies for its 2 GHz system feeder links. This proposal is being addressed along two parallel tracks: Boeing's feeder link application is being addressed in the Commission's *SkyBridge NPRM* and NGSO FSS application proceedings, while certain over-arching policy questions relating to Boeing's request are being addressed in this proceeding.

In particular, in this proceeding the Commission has requested comment on whether NGSO MSS feeder links should be permitted in "NGSO FSS spectrum"[1] and on the feasibility of accommodating Boeing's proposed provision of AMS(R)S service over its 2 GHz MSS system.[2] The comments submitted in this proceeding demonstrate that Boeing's request should be denied or, at a minimum, deferred on several grounds.

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[1] NPRM at ¶ 61. As discussed in PanAmSat's comments, the NPRM's framing of the question is inappropriate. There never will be any such thing as "NGSO FSS" spectrum in the Ku-band. At best, the Ku-band will be shared between GSO and NGSO systems under mutually-restrictive sharing rules. As a result, the Commission should not even begin to contemplate NGSO MSS use of Ku-band FSS spectrum until the threshold issue of NGSO/GSO sharing has been resolved.

[2] NPRM at ¶ 22.

First, the NPRM tentatively concluded that sufficient spectrum has been allocated internationally and adopted (or proposed to be adopted) domestically to accommodate the NGSO MSS feeder link needs of 2 GHz applicants.[3] Yet Boeing, in its comments, did not even attempt to justify its proposed use of spectrum outside these bands.[4] Given the serious sharing constraints that exist in the Ku-band, Boeing should be held to a high standard in demonstrating a specific need to use Ku-band frequencies before its request should be considered. Its silence on this matter, obviously, does not satisfy a high standard or any standard.

Second, Boeing's comments indicate that, besides seeking the feeder link and TT&C Ku-band spectrum specified in its application, it plans to ask for additional Ku-band spectrum in the future.[5] It will be difficult enough to accommodate Boeing's existing proposal – assuming that the Commission elects to make Ku-band spectrum available for NGSO MSS feeder links – and the proposals of other Ku-band NGSO processing group applicants. It is highly unlikely that Ku-band spectrum for additional, future requirements also could be accommodated.

Third, Boeing's proposed provision of aeronautical safety-of-life services further complicates the issue and makes it particularly important that the Commission at least defer any consideration of the feeder link portion of Boeing's application until after the GSO/NGSO sharing issue has been resolved. Boeing, in its comments, continues to maintain that it does not require any special priority *vis-a-vis* other systems in order to provide AMS(R)S services.[6] Yet it is unclear whether Boeing's rationale even applies to GSO systems.

Boeing's claim is premised on the assertion that, both technically and legally, it "has no need to seek inter-network preemptive capabilities with satellite networks in adjacent bands."[7] Thus, it contends, it would not need to preempt other MSS systems operating in adjoining spectrum. But when it comes

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[3] NPRM at ¶ 51.

[4] See Boeing Comments at 22-23.

[5] See Boeing Comments at 24-25.

[6] Boeing Comments at 5-7.

[7] Boeing Comments at 6.

to Boeing's feeder links, it would operate co-frequency with GSO satellites, not in adjacent spectrum. As a result, this rationale would not appear to govern the required priority as among Boeing and Ku-band GSO systems.

More generally, Boeing's claim that it does not require inter-system preemptive rights is contradicted both by the inherent characteristics of safety-of-life services and by ARINC. ARINC discusses at length the market, legal, and regulatory reasons why Boeing must be granted priority rights as against other spectrum users if it is to provide its proposed service.[8] Given ARINC's unique role in aviation and safety-of-life communications, its comments should be given great weight.

The Commission, therefore, should recognize that Boeing's AMS(R)S proposal is controversial and both legally and technically complex.[9] Extreme caution is warranted, because introducing safety-of-life into the equation could compound the sharing problems that already exist at Ku-band.

Finally, in addition to complicating further the issue of NGSO access to the Ku-band, Boeing's proposed use of Ku-band spectrum for its MSS feeder links threatens to slow the development of 2 GHz MSS systems. There is general agreement that not all of the 2 GHz MSS applicants will place their systems into operation, and that strict enforcement of milestones will be necessary. Yet, in Boeing's view, milestones for 2 GHz MSS licensees should not begin running until the FCC has completed feeder link assignments.[10] If the Commission were to adopt Boeing's approach, any feeder link proposal that could not quickly be resolved— such as Boeing's — would present an obstacle to the implementation of 2 GHz MSS systems milestones. Indeed, even if the Commission did not adopt Boeing's approach on milestones as a general policy, it almost certainly

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[8] ARINC Comments at 3-5. While ARINC did not explicitly address the priority that would be required as between Boeing's feeder link operations and other, co-frequency GSO FSS systems, its statements on Boeing's need for clear priority and the integral nature of feeder link operations suggests that some form of priority would be required *vis-a-vis* GSO FSS systems.

[9] See, e.g. NTIA Comments at 18-19; ICO Comments at 5; Globalstar Comments at 4-6; Celsat Comments at 27-28; TMI Comments at 3; Inmarsat Comments at 12-13; Constellation Comments at 4-5; Iridium Comments at 8-11; IUSG Comments at n.18.

[10] Boeing Comments at 25-27.

would be faced with requests for milestone extensions by licensees whose feeder link requests were not resolved in a timely fashion.

For all of the above reasons, PanAmSat believes that Boeing should be required to amend its feeder link request to specify an alternative band that can more easily accommodate Boeing's proposed operations. At a minimum, the Commission should defer consideration of Boeing's request until comprehensive ground rules governing NGSO MSS use of GSO FSS Ku-band spectrum have been adopted.

II. THE COMMISSION SHOULD REQUIRE GLOBALSTAR TO AMEND ITS GSO SYSTEM FEEDER LINK REQUEST.

Globalstar currently requests a Ku-band feeder link assignment for its 2 GHz GSO MSS system, in violation of the Commission's policy of precluding the use of conventional FSS C- and Ku-bands for MSS feeder links. Globalstar, however, has failed to justify its proposal; indeed, it admits that it could amend its request to specify one of the alternative bands identified by the Commission in the NPRM for GSO MSS feeder links.[11]

Having admitted that other spectrum is available and acceptable to it, Globalstar should not be allowed to congest the Ku-band with its feeder link operations. This is true even if, as Globalstar proposes, it is able to find a GSO FSS licensee who is not fully using its licensed spectrum and is willing to sell that spectrum to Globalstar.[12] Whether achieved through Commission rule or private negotiation, MSS feeder link use of the Ku-band would be an inefficient use of a scarce, highly valuable spectrum resource and would diminish the spectrum available to GSO FSS systems. Accordingly, Globalstar should be required to amend its application to specify feeder link frequencies in one or more of the alternative bands identified by the Commission in the NPRM .

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[11] Globalstar Comments at 28.

[12] Id.

III. THE COMMISSION SHOULD NOT PERMIT CELSAT TO OPERATE FEEDER LINKS IN GSO FSS KA-BAND SPECTRUM.

In the NPRM, the Commission tentatively concluded that GSO MSS feeder links are a type of GSO FSS operation and, therefore, that the GSO FSS Ka-band designations are "appropriate" bands to accommodate Celsat's feeder link request.[13] It did not, however, conclude that Celsat's proposed use necessarily is "appropriate" in the larger sense — *i.e.*, that it necessarily should be allowed as a policy matter — and specifically questioned whether the Commission's traditional policy of prohibiting feeder link use of the conventional C- and Ku-band FSS allocations should be extended to the Ka-band and preclude Celsat's use of Ka-band GSO FSS spectrum.[14]

Several commenting parties joined PanAmSat in urging the Commission to prevent Celsat from using Ka-band GSO FSS spectrum for its 2 GHz system feeder links.[15] As these parties discussed, now that technology and regulation have made the Ka-band accessible to GSO FSS operators, interest in the band is intense. Indeed, just three years after the Commission first made this band available for GSO FSS use,[16] the demand for Ka-band orbital locations within CONUS and in certain other regions of the orbital arc already exceeds the available supply.[17] Given this demand, it would be inefficient and detrimental to the full development of the Ka-band GSO FSS service to authorize Celsat to divert frequencies from "traditional" GSO FSS operations into feeder link functions.

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[13] NPRM at ¶ 64.

[14] Id.

[15] Hughes Comments at 3-8; Pegasus Comments *passim*.

[16] *In the Matter of Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, First Report and Order and Fourth Notice of Proposed Rulemaking, 11 FCC Rcd 19005, ¶ 59 (1996) ("28 GHz First R&O").

[17] Celsat's attempt to distinguish the Ka-band from the C- and Ku-bands on the ground that the former "is not currently heavily used by domestic fixed satellites," Celsat Comments at 24-25, ignores the fact that this band only recently has been made available to GSO FSS systems. If anything, based upon the response to the Commission's first and second Ka-band processing rounds, it appears that available Ka-band spectrum will be exhausted even more quickly and more completely than either the C- or Ku-bands were.

PanAmSat, therefore, urges the Commission to extend its existing policy of prohibiting feeder link use of conventional FSS allocations to the Ka-band and, accordingly, to reject Celsat's proposed use of Ka-band GSO FSS spectrum.

IV. 2 GHz MSS Licensees Should Be Required To Perform TT&C Functions Within Their Feeder Link Authorizations.

The comments support the Commission's continued enforcement of its policy requiring satellite operators to perform TT&C operations within their assigned feeder link frequencies or within bands allocated to space operations.[18] Consistent with this policy, and in order to serve the objectives it promotes, the Commission should not permit TMI (or any other 2 GHz MSS applicant) to use non-feeder link frequencies for TT&C operations.

TMI seeks to defend its proposal on the ground that TT&C operations likely would be carried out via a Canadian control center pursuant to TMI's Canadian license.[19] TMI's transmissions, however, will have an impact on U.S.-licensed GSO operations, whether they originate in Canada or in the United States. Their point of origination, therefore, is irrelevant. Similarly, the fact that Canada will have authorized TMI's transmissions does not resolve the issue. If TMI wishes to have its MSS system authorized in the United States pursuant to the DISCO II LOI process, its system must comply with the Commission's Part 25 rules, including its rules governing the operation of TT&C functions.[20]

V. The Commission Should Not Use Auctions To Assign 2 GHz MSS Licenses.

PanAmSat joins the Satellite Industry Association and the many other commenting parties who opposed using auctions to assign licenses for any

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[18] NTIA Comments at 8; Globalstar Comments at 30.

[19] TMI Comments at 9.

[20] *Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, Report and Order, IB Docket No. 96-111, 12 FCC Rcd 24094, at ¶ 15 and n. (1997) (non-U.S. systems, including those authorized through the LOI process, will be required to comply with the same financial, technical, and legal qualifications, and with other general service rules, applicable to U.S. systems).

international satellite service, including the 2 GHz MSS service.[21] The comments discuss in detail the myriad reasons why auctioning this type of license would disserve the public interest.

Only a single party in this proceeding, BellSouth, argued in favor of auctions.[22] In doing so, it ignored the strong policy considerations weighing against subjecting international satellite spectrum to auction. Moreover, it essentially is seeking to use auctions for an inappropriate purpose: driving up the price for MSS applicants to launch their systems in an attempt to obviate the need to relocate terrestrial incumbents. From both a legal and a policy perspective, this is not a legitimate basis for using an auction in this proceeding.

VI. THE COMMISSION SHOULD NOT ADOPT RULES IN THIS PROCEEDING THAT WOULD COMPLICATE NGSO/GSO SHARING.

Several issues raised in this proceeding could affect the Commission's efforts to determine whether and, if so, under what conditions, NGSO FSS systems can be accommodated in Ku-band and Ka-band GSO FSS spectrum. The Commission should not make any decisions in this proceeding that, directly or indirectly, pre-ordain the outcome of the Ku-band or Ka-band proceedings or complicate the resolution of NGSO/GSO sharing issues.

Celsat has urged the Commission to conclude the licensing process for 2 GHz MSS applicants by December of this year.[23] As discussed in PanAmSat's comments, Boeing and Celsat each has applied to use GSO FSS spectrum for feeder link operations, and these applications are being considered as part of the Ku-band (Boeing) and Ka-band (Celsat) processing rounds. If Boeing's and Celsat's proposals are not rejected outright in this proceeding, the Commission either should bifurcate the service link and feeder link licensing processes or should defer all licensing decisions until action on Boeing's and Celsat's feeder

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[21] SIA Comments at 3-4; ICO Comments at 11-14; Globalstar Comments at 12-14; Celsat Comments at 17-20; TMI Comments at 8; Inmarsat Comments at 12; Constellation Comments at 6-7; Iridium Comments at 4-5, 25-29; MCHI Comments at 17-18; IUSG Comments at 34-37.

[22] BellSouth Comments at 2-5.

[23] Celsat Comments at 4-6.

link proposals is appropriate, within the context of their processing rounds.[24] As the NPRM recognized, the desire to expedite the licensing process cannot overcome the Commission's obligation to take the time necessary to achieve the best results.[25]

VII. THE COMMISSION SHOULD REJECT GLOBALSTAR'S PROPOSAL FOR REPLACEMENT SATELLITES AND IN-ORBIT SPARES.

The Commission has proposed that, consistent with its rules for Big LEO systems, 2 GHz licensees would have authority to launch replacement satellites that are "technically identical" to those authorized in their initial grant, but would have to seek a modification to launch non-conforming satellites.[26] Globalstar asks that the Commission modify this proposal to permit the launch of replacement and spare satellites that are not technically identical to those authorized, if the licensee determines that its replacements and spares "conform to the PFD and EIRP limits established for 2 GHz MSS and other sharing criteria."[27]

PanAmSat opposes Globalstar's proposal. Sharing spectrum between GSO and NGSO systems is an untested and controversial procedure, and errors in judgment can have grave consequences for GSO operators and their customers. It is critical in this environment that GSO licensees have an opportunity to review and evaluate in advance changes that NGSO licensees plan to make to their system design. NGSO licensees should not be permitted to make unilateral determinations as to whether they believe that their changes will cause interference to GSO systems.

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[24] With respect to Boeing's Ku-band application, PanAmSat has urged the Commission to defer processing all Ku-band NGSO FSS applications until certain necessary pre-conditions have been met. See PanAmSat Corporation Petition To Defer Processing, File Nos. File Nos. SAT-AMD-19980318-00021 *et al.* (filed June 30, 1999). With respect to Celsat's Ka-band application, it should be processed, if at all, only concurrently with all other second-round Ka-band GSO applications.

[25] NPRM at ¶ 12.

[26] Id. at ¶ 81.

[27] Globalstar Comments at 35.

VIII. THE COMMISSION SHOULD NOT ADDRESS THE ISSUE OF ORBITAL DEBRIS MITIGATION IN THIS PROCEEDING.

The other commenting parties universally agreed with PanAmSat that, if Commission rules on orbital debris mitigation are required, this is not the appropriate proceeding in which to adopt them.[28] Accordingly, the Commission should address the issue of orbital debris mitigation in a separate proceeding.

CONCLUSION

For the reasons stated in these reply comments and in its comments, PanAmSat respectfully requests that the Commission adopt 2 GHz MSS policies and service rules that are consistent with the recommendations set forth herein and therein.

Respectfully submitted,

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[28] ICO Comments at 21; Globalstar Comments at 46; Constellation Comments at 28-29; Iridium Comments at 52-54; Boeing Comments at 40-42; TMI Comments at 11.